II. SPECIFICATION AMENDMENTS

Delete the section beginning on Page 3 from Lines 1-13 and replace it with the following replacement section:

aperture. A first gating electrode is located proximate a first side of the aperture. A second gating electrode is located proximate a second side of the aperture. A third gating electrode is located in the gas channel. A first voltage source having a first phase is connected to the first gating electrode. A second voltage source having a second phase in phase separation from the first phase is connected to the second gating electrode. A third voltage source having a third phase in phase separation from the first phase and the second phase is connected to the third gating electrode. The first phase, second phase and third phase are sequenced so that marking material is metered from the reservoir into a propellant stream in the gas channel.

Delete the section on Page 3 from Lines 15-33 and replace it with the following replacement section:

In accordance with another embodiment of the present invention, a toner gating apparatus is provided for supplying toner through an aperture to a gas channel having a propellant stream. The toner gating apparatus has a traveling wave grid having electrodes. A first gating electrode is located proximate a first side of the

aperture. A second gating electrode is located proximate a second side of the aperture. The gating may be implemented in two modes: continuous and on-demand. A third gating electrode is located in the gas channel. A first voltage source having a first phase is connected to both the first gating electrode and a first electrode of the travelling wave grid. A second voltage source having a second phase is connected to both the second gating electrode and a second electrode of the travelling wave grid. In continuous mode, a third voltage source having a third phase is connected to both the third gating electrode and a third electrode of the travelling wave grid. In on-demand mode, the voltage source for the third gating electrode is

Delete the section on Page 6 from Lines 1-18 and replace it with the following replacement section:

marking materials may be provided. BAM Device 10 has a body 14 within which is formed a plurality of cavities 16, 18, 20, 22 for receiving materials to be deposited. Also formed in body 14 may be a propellant cavity 24 for propellant 36. A fitting 26 may be provided for connecting propellant cavity 24 to a propellant source 28 such as a compressor, a propellant reservoir, or the like. Body 14 may be integrally formed as part of or connected to a print head 30. Print head 30 has one or more ejectors having channels 46 (only one channel is shown in Fig. 1 for example purposes) through which [[a]] the propellant 36 is fed. Marking material is caused to flow out from cavities 16, 18, 20, 22 and is transported and metered into the ejector into a stream of propellant

flowing through channel 46. The marking material and propellant are directed in the direction of arrow A toward a substrate 50, for example paper, supported by a platen 52.

Delete the paragraph beginning on Page 6 at Line 20 through Page 7 Line 30 and replace it with the following replacement paragraph:

Referring now to Fig. 2, there is shown a side schematic section view of Print Head 30 of Ballistic Aerosol Marking (BAM) direct marking process having an electrode grid 58. Print head 30 has one or more channels 46 to which a propellant 36 is fed. Fig. 2 shows an exemplary channel 46 and a gating device ~~gating~~ metering marking material into the channel. The marking material 68 may be transported from a marking material reservoir, such as cavities 16, 18, 20, 22 (not shown, see fig. 1) by an electrode grid 58 under the control of controller 62 via a four phase circuit to drive the travelling wave 80. In alternate embodiments, transporting methods other than electrode grid 58 may be employed or more or less phases may be provided. The marking material 68 is metered and introduced into channel 46 through aperture 66. The marking material 68, which may be fluidized toner is metered through a two phase or three phase gating device by electrostatic forces which will be described in more detail below. For 300 ~~spi~~ dpi resolution, aperture 66 may have a diameter 74 of approximately 50um to conform to a channel width 72 of approximately 84um. In alternate embodiments, any suitable aperture size and channel width may be used. For this scale, low agglomeration or

"powdery" 6 um toner can be used. In the embodiment shown, and depending upon the effectiveness of the gating system, gated toner can make the effective aperture size approximately 25-30um down from 50um due to surface adhesion. This is explained in that only 8 toner particles can fit diagonally across the aperture 66 and two layers may be attached or otherwise adhered to the aperture walls by van der Waals adhesion or through toner-toner co-hesion. The aperture 66 may be fabricated from Au coated 2 mil Kapton film with a laser drilled 50um hole. In alternate embodiments, other suitable materials may be used. The centerline of aperture 66 is shown approximately 90 degrees from the channel flow path. In alternate embodiments, other angles may be employed and other sizes or shapes may be used. In alternate embodiments, more apertures, and transporting devices may interface with channel 46, such as in the instance where multiple colors or marking materials are introduced into channel 46. Channel 46 may be formed as a Laval type expansion nozzle incorporating a venturi structure or otherwise having an exit end 68 and a propellant supply end 70.